

### CLAIMS

1. System (20) of feeding preforms, particularly designed to feed a machine for blow moulding receptacles such as bottles, of the type comprising, from upstream to downstream in the longitudinal direction of travel of the preforms (10), at least one sorting and alignment device (28) whose top end is fed with jumbled preforms (10) and whose bottom end comprises at least two alignment rollers (38), substantially parallel and rotated about their respective axis (A1, A2), that are designed to position the preforms (10) in conveyor rails (30), inclined relative to the horizontal, to convey them to the machine (22), and of the type comprising, upstream of the machine (22), filtering means (48) to discard the incorrectly positioned preforms, characterized in that the filtering means (48) comprise, downstream of the alignment rollers (38), at least one selective discarding device (50) arranged to discard the preforms (10) called lying singly preforms, that is to say those that arrive from the rollers on the rails lying down and oriented longitudinally and that extend generally longitudinally on the conveyor rails (30).

2. System of feeding preforms according to Claim 1, characterized in that the selective discarding device (50) comprises movable discarding means (52) that are controlled in movement by a driven actuator (54).

3. System (20) of feeding preforms, particularly designed to feed a machine for blow moulding receptacles such as bottles, of the type comprising, from upstream to downstream in the longitudinal direction of travel of the preforms (10), at least one sorting and alignment device (28) whose top end is fed with jumbled preforms (10) and whose bottom end comprises at least two alignment rollers (38), substantially parallel and rotated about their respective axis (A1, A2), that are designed to position the preforms (10) in conveyor rails (30), inclined relative to the horizontal, to convey them to the machine (22), and of the type comprising, upstream of the machine (22), filtering means (48) to

discard the incorrectly positioned preforms, characterized in that the filtering means (48) comprise, downstream of the alignment rollers (38), at least one selective discarding device (50) arranged to discard the preforms (10) called lying preforms, that is to say those that arrive singly or else nested, from the rollers on the rails lying down and oriented longitudinally and that extend generally longitudinally on the conveyor rails (30), and in that the selective discarding device (50) comprises movable discarding means (52) that are controlled in movement by a driven actuator (54).

10           4. System of feeding preforms according to one of Claims 2 or 3, characterized in that the selective discarding device (50) comprises detection means (56) capable of supplying to the actuator (54) a detection signal representative of the presence on the rails (30) of at least one lying preform.

15           5. System of feeding preforms according to Claim 4, characterized in that the detection means (56) comprise at least one sensor (58) that is arranged at a determined height above the rails (30) in order to identify a lying preform depending on the position of its radial collar (18).

20           6. System of feeding preforms according to any one of Claims 2 to 5, characterized in that the movable discarding means (52) consist of at least one section (60) of movable rail that is capable, when a lying preform is detected, of being moved by the actuator (54) between a position of conveying the preforms and a retracted discarding position in which the preforms are discarded to recovery and/or recirculation means (70).

25           7. System of feeding preforms according to Claim 6, characterized in that the section (60) of rail is mounted so as to move in translation outwards in a transverse direction so as to form a trap door which, in the retracted position, causes all the preforms that are on the movable section of rail to fall by gravity.

30           8. System of feeding preforms according to any one of the preceding claims, characterized in that it comprises means (72)

for stopping the line of preforms (10) situated upstream of the mobile discarding means (52) when a lying preform is detected.

9. System of feeding preforms according to Claim 8, characterized in that the stopping means (72) consist of at least  
5 one stopping arm (74) that is mounted so as to pivot between a retracted rest position and a stopping position in which a portion (76) of the arm (74) interacts with a portion of the neck (14) of a preform, called the leading preform, in order to immobilize the line  
10 of preforms (10) situated upstream of the movable section (60) of rail when it is moved to its retracted discarding position.

10. System of feeding preforms according to Claim 9, characterized in that the stopping portion (76) of the arm (74) comprises a curved profile designed to come into contact tangentially with the neck (14) of the leading preform.

15 11. System of feeding preforms according to any one of the preceding claims, characterized in that the filtering means (48) comprise at least one ejection wheel (40) designed to eject other types of incorrectly positioned preforms, such as the preforms in the "nested upright" position, that is arranged upstream of the  
20 device (50) for selectively discarding the lying preforms.